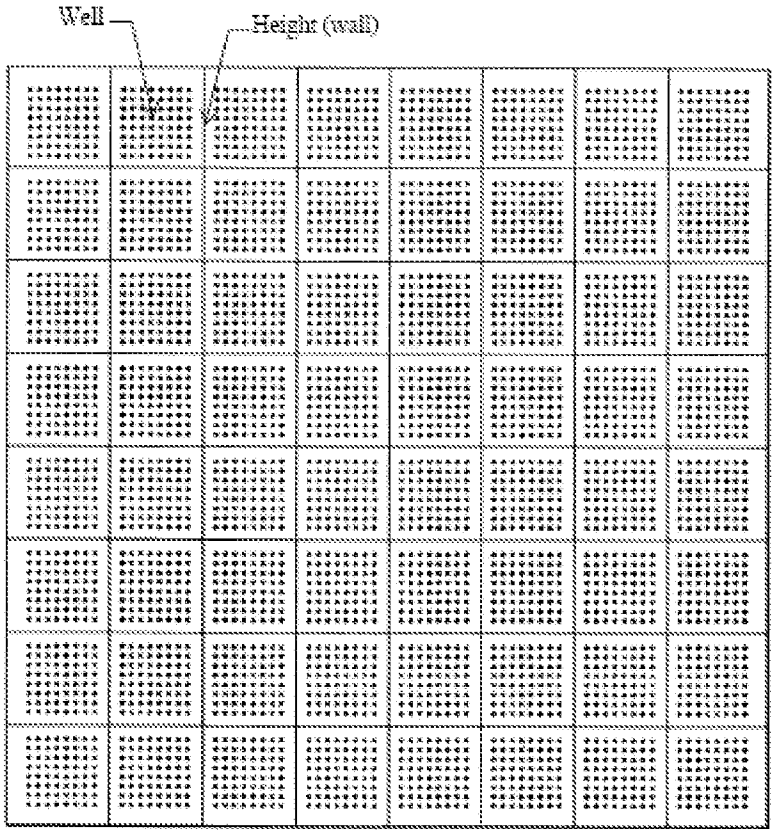
C. Remarks

The claims are 74-76 and 79, with claim 74 being independent. Claims 77 and 78 have been cancelled without prejudice or disclaimer. New claim 79 has been added. Claim 74 has been amended to better define the present invention and rephrased for clarification. Support for the recitation of the sizes of the square sections may be found, for example, in the substitute specification on pages 33-34, which discuss the densities of the square sections. Support for the exclusion of the heights (walls) separating the sections may be found, for instance, in Examples 1 and 5, as well as in Figs. 5, 7, and 8. Specifically, Figs. 1 and 5 show an array discussed in Example 1, in which adjacent wells are separated from each other by black matrix walls:

FIG. 5



64×64 ARRAY PATTERN

Example 5 describes the production of an array without the black matrix or walls. The absence of the wall is clearly demonstrated by Fig. 7 and 8, which are the same type of drawings as Fig. 5.

FIG. 7

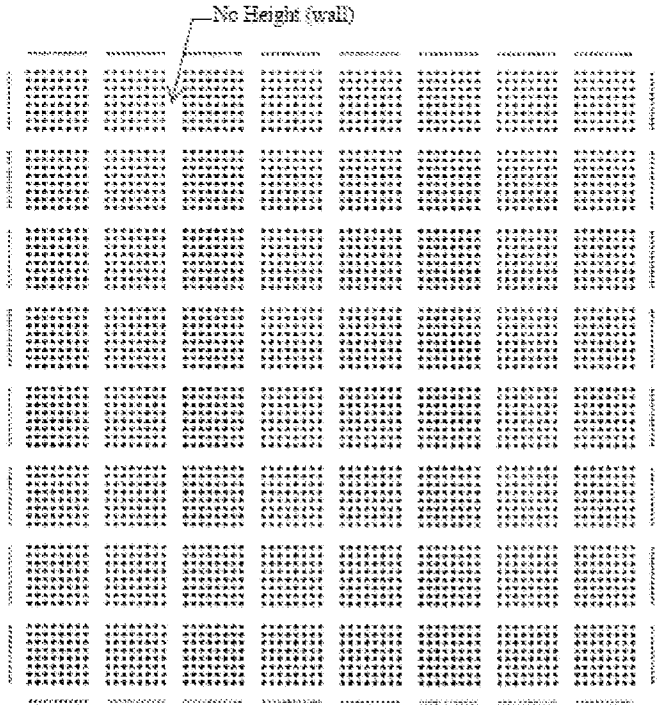
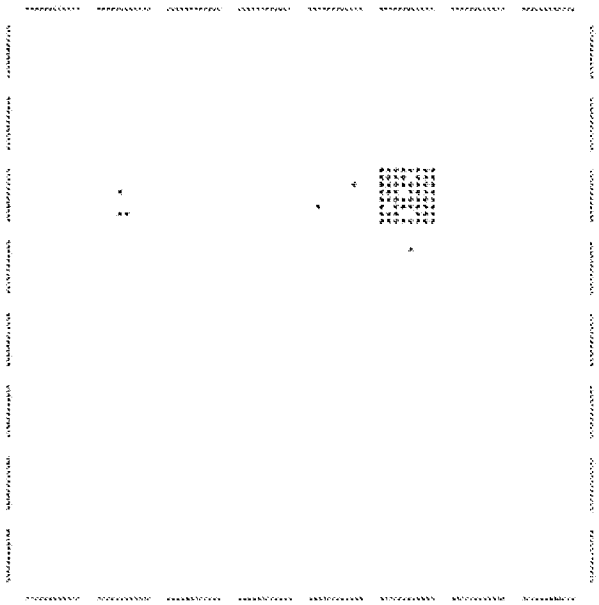


FIG. 8



Stated differently, should there have been heights (walls) formed in Example 5, such walls would be schematically represented in Figs. 7 and 8, as they have been shown in Fig. 5. Clearly, no walls are shown in Figs. 7 and 8. Support for the recitation of the liquid test samples may be found in the above-mentioned portions of the specification.

Claims 75 and 76 have been amended to reflect the changes in claim 74. New claim 79 has been added. Support for this claim may be found in the paragraph bridging pages 45 and 46. Therefore, Applicants respectfully submit that no new matter has been added. Reconsideration of the present claims is expressly requested.

Claims 74-76 and 78 stand rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by U.S. Patent No. 6,476,215 B1 (Okamoto). Claims 74 and 75 stand rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by U.S. Patent No. 5,545,531 (Rava). Claims 77 and 78 stand rejected under 35 U.S.C. § 103(a) as being allegedly obvious from Rava in view of U.S. Patent No. 5,807,522 (Brown). Claim 76 stands rejected under 35 U.S.C. § 103(a) as being allegedly obvious from Rava in view of U.S. Patent No. 5,700,637 (Southern). Claims 74, 75, 77, and 78 stand rejected under 35 U.S.C. § 103(a) as being allegedly obvious from Brown in view of Rava. Claim 76 stands rejected under 35 U.S.C. § 103(a) as being allegedly obvious from Brown in view of Rava and Southern. Claim 77 stands rejected under 35 U.S.C. § 103(a) as being allegedly obvious from Okamoto in view of Brown. The grounds of rejection are respectfully traversed.

Prior to addressing the merits of rejection, Applicants would like to briefly discuss some of the features of the presently claimed invention. That invention is related to a method of detecting a complex formed between an oligonucleotide as a probe and an

object component capable of binding to the oligonucleotide to determine whether the object component is contained in each of 64 to 3600 liquid test samples. The oligonucleotide is selected from various types of oligonucleotides having known base sequences, which are different from one another. This method utilizes a solid detection substrate, which has a plurality of 500 μm to 6 mm square sections arranged in a matrix form. The sections are not separated by walls and fix the oligonucleotides in such a manner that one type of oligonucleotide is present at a uniform surface density in each square section. A predetermined amount of the 64 to 3600 test samples is then spotted in each square section at individual, separate spots so that the individual, separate spots within each square section are sufficiently spaced from each other to conduct a complex-forming reaction between the oligonucleotide and the object component at each spot. A detection is then carried out to determine whether a complex is formed at each spot.

Okamoto is related to a method of spotting probes in an array. This reference, however, does not disclose or suggest spotting 64 to 3600 test samples in each of 500 μm to 6 mm square section so that individual, separate spots are sufficiently spaced apart from each other. This is an important distinction, because the present invention avoids deterioration of detection sensitivity due to a competing reaction of two probes that can occur within a well (if used) or contamination. Furthermore, when the oligonucleotide probes are uniformly fixed on the surface of a solid substrate, they function as a blocking layer against non-selective adhesion, which makes a blocking treatment unnecessary. Accordingly, Okamoto cannot affect the patentability of the presently claimed invention.

Rava is directed to a device, which can be used to concurrently process multiple biological chip assays. Rava discloses a biological chip plate having, for example,

96 wells arranged in 8 rows and 12 columns. Each of the wells has a probe array, which may be different or the same among the plurality of wells. Applicants respectfully submit, however, that Rava fails to disclose or suggest a substrate where a plurality of 500 μm to 6 mm square sections are arranged in a matrix form without separation by walls.

Brown and Southern cannot cure the deficiencies of Okamoto and Rava as they are missing the same presently claimed features, which are absent in Okamoto and Brown, as discussed above.

In sum, it is clear that the cited references, whether considered separately or in any combination, fail to disclose or suggest all of the presently claimed elements.

Wherefore, withdrawal of the outstanding rejections and expedient passage of the application to issue are respectfully requested.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

/Jason M. Okun/
Jason M. Okun
Attorney for Applicants
Registration No. 48,512

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200

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